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EXAMINER

RUTHKOSKY, MARK

ART UNIT PAPER NUMBER

1745

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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AUG 13 2004
GROUP 1700

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/875,787

Filing Date: June 06, 2001

Appellant(s): ANANTHANARAYANAN ET AL.

Douglas E. Erickson
For Appellant

MAILED
AUG 13 2004
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EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/28/2004.

Art Unit: 1745

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1-17 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7). The appellant's brief does not include reasons in support that claims do not stand or fall together.

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 1745

(9) Prior Art of Record

3,849,203

HOLLIS et al.

11-1974

(10) Grounds of Rejection

The following rejections and arguments are copied from the final office action mailed on January 9, 2004. The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-10, 13, 14 and 17 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hollis et al. (US 3,849,203.)

Hollis et al. (US 3,849,203) teaches a battery terminal for a battery case, the case having a wall defining an inner surface of the case and an outer surface of the case. An aperture extends between the inner and outer surfaces of the case and the terminal including a barrel portion defining an outer circumferential surface extending through the aperture. One end of the barrel portion terminates in an outwardly projecting section from the outer surface of the case and a circumferentially extending, radially outwardly projecting shoulder on the opposite end of the barrel portion engaging the inner surface of the case when the barrel portion is inserted in the aperture (see figures 1-2.) An annular retaining ring having an inner circumferential surface is installed on and secured to the outwardly projecting section of the barrel portion, which defines a radially projecting surface engaging the outer surface of the case (col. 2, lines 3-50 and the figures.) The outer circumference of the barrel portion and the inner circumference of the surface of the retaining ring are dimensioned to receive the ring on the barrel portion with an interference fit there between that is fused together. The heating process for deforming the ring and bushing is considered a weld as the elements are fused together (claim 1 and col. 2, lines 27-50.) Weld is defined in the Merriam-Webster Collegiate Dictionary (as attached to the final

Art Unit: 1745

office action) as “to unite (metallic parts) by heating and allowing for metals to flow together or by hammering or compressing with or without the previous heating; and to unite or reunite closely or intimately.” The reference teaches both heating and compressing the ring and the barrel portion to form a union of the elements. Fusing includes the definition ‘to stitch by applying heat and pressure with or without the use of an adhesive.’ As heat and pressure are applied, the materials of the reference are fused.

The amended claims include the limitation that the retaining ring “longitudinally engages the terminal.” Figures 1 and 2 of the Hollis reference teach that the retaining ring longitudinally engages the terminal. This is shown, as the ring 29 is adjacent to the terminal assembly along a longitudinal wall 24. The same feature is shown in figure 1 of the instant invention. The retaining ring longitudinally engages the terminal as shown in figure 2. Thus, the claims are anticipated.

Claims 11, 12, 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hollis et al. (US 3,849,203.)

The instant claims include the limitations that the step of heating the interface between the retaining ring and the projecting portion includes passing an electrical current through the retaining ring while pressing the ring into position. The teachings of Hollis et al. (US 3,849,203) have been presented. Hollis does teach heating the ring interface in order to heat, deform and mold the assembly under pressure in order to permanently fix the assembly as previously described (claim 1 and col. 2, lines 27-50.) Hollis does not teach heating the interface by passing an electrical current through the retaining ring in order to deform the assembly. It would be

Art Unit: 1745

obvious to one of ordinary skill in the art at the time the invention was made to use electrical current to heat the metal ring, as the current will produce heat from the resistance of the metal. As passing current through a metal is well known in the art for producing heat, and heating the ring is well described in Hollis et al. (US 3,849,203), it would be obvious to one of ordinary skill in the art to heat the ring by passing current through the interface in order to fuse the materials. The artisan would have found the claimed invention to be obvious in light of the teachings of the reference.

(11) *Response to Arguments*

The applicant's arguments have been considered, however, these arguments are not persuasive.

Response to arguments with regard to rejections under 35 U.S.C. 102:

The applicant argues that reference does not teach that the inner circumferential surface of the retaining ring is secured to the outer circumferential surface of the terminal barrel portion of the terminal. This is inaccurate. In column 2, lines 27-50 and as illustrated in the figures, the assembly of the terminal into the sidewall is described. The inner circumferential surface of the retaining ring is secured to the outer circumferential surface of the terminal barrel portion of the terminal. Under downward pressure and higher temperatures from a swaging tool, the inner circumferential surface of the retaining ring and the outer circumferential surface of the terminal barrel portion are deformed and molded into an integral unit (col. 1, lines 18-25 and col. 2, lines 27-50.)

The applicant further argues that the reference does not teach a retaining ring installed and longitudinally engaging the terminal. The applicant states that this inherently means (page 5 of the appeal brief) that a longitudinally-inward-facing surface of the retaining ring longitudinally engage a longitudinally-outward-facing surface of the terminal, however this definition is not defined in the specification. This definition has therefore been considered, but is given no patentable weight. The phrase "longitudinally engaging" is given its broadest reasonable interpretation in light of the specification. Longitudinally is well described as a vertical length or extending in an up and down direction as on a globe. It is clear from figures 1 and 2 of the Hollis reference that the retaining ring longitudinally engages the terminal. This is shown, as the ring 29 is adjacent to the terminal assembly along a longitudinal wall 24. The same feature is shown in figure 1 of the instant invention. Thus, the argument is not persuasive.

The applicant further argues that the reference does not teach the retaining ring and terminal barrel portion be i) welded together or ii) fused together. The retaining ring of the reference is welded or fused to the barrel portion of the terminal, however the applicant argues that the joining together of the retaining ring and the barrel portion in the reference is not a weld. The applicant argues that swaging does not result in a weld. The examiner disagrees and has attached two definitions from the Merriam-Webster Collegiate Dictionary to the final office action. These definitions of weld and fuse are consistent with the procedure taught in column two of the reference. Further, on page 4 of the instant application the surfaces of the retaining ring and the terminal are heated to soften the metal, which causes the components to fuse together, providing a weld that is nearly as strong as the battery case and terminal (page 4 of the instant specification, lines 18-21.) The method shown in col. 2, lines 27-50 of the reference

Art Unit: 1745

teach that the pressure and heat from the swaging method inherently deform and mold the ring and terminal in the same manner. Thus, the argument is not persuasive.

Response to arguments with regard to rejections under 35 U.S.C. 103:

The examiner notes, in response to the applicant's comments, that the rejection is not an anticipation rejection and acknowledges that the reference does not teach electric-current heating of the retaining ring and battery terminal in order to fuse the materials together. The response to arguments with regard to the retaining ring *longitudinally* engaging the terminal and the retaining ring being fused with the terminal have been addressed in the previous section.

The remaining argument is that there is no motivation to use electric current heating in the invention of Hollis. The Hollis reference teaches a method for producing a battery terminal member for a battery case. A terminal section is placed through the case in the same manner (for example, see figure 1) as in the instant invention (for example, see figure 4) and a retaining ring is added under pressure and heat in order to secure the ring to the casing and the terminal member. The difference in the methods is that the heat generated in the reference is from friction of the swaging tool while the instant application includes claims where the heat is generated by electric-current heating of the retaining ring and battery terminal in order to fuse the materials together. The prior art clearly shows that heat and pressure are necessary components for fusing the terminal and the ring together under pressure. One of ordinary skill in the art would find it obvious, based on the teachings of Hollis, to heat the retaining ring while pressing the ring into a seated position on the casing and adjacent to the terminal. Heating a metal by passing an electric current through the metal is well described in the prior art as the current endures a resistance through the metal, which inherently produces heat. The motivation to modify the process of

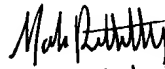
Art Unit: 1745

Hollis is found in the heating step of Hollis, which is used to deform and fuse the metal ring to the metal terminal. Electric-current heating is art recognized for the intended purpose of heating a metal and electric-current heating will perform the expected function of heating the retaining ring to give the resulting terminal structure of the Hollis reference.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745


8/3/04

MR
August 3, 2004

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